

## IN THE CLAIMS:

Please AMEND claim 13 as follows:

1. (PREVIOUSLY PRESENTED) A method of providing a multi-wavelength light source, comprising:

modulating an optical pulse source so as to output optical pulses with a designated repetition frequency  $f_0$ ;

time-division multiplexing the optical pulses output by said optical pulse source by causing the outputted optical pulses to be branched by a half mirror into first and second lights, so that the branched first light is reflected by a variable optical delay unit and then the reflected first light passes through the half mirror to an output port, and so that the branched second light passes through a variable optical attenuator is then reflected by a mirror and then the reflected second light again passes through the variable optical attenuator and thereafter passes through the half mirror to the output port, to thereby multiplex together the first light passing through the half mirror and the second light passing through the half mirror into a multiplexed light which is output through the output port and which includes optical pulses with a repetition frequency of  $2*(f_0)$ , wherein

a time difference of a path traveled by the first light and a path travelled by the second light is  $1/(2*(f_0))$ , and

the variable optical attenuator adjusts intensity of the second light so that intensities of optical pulses in the branched first and second lights are equal in the multiplexed light output through the output port; and

demultiplexing wavelengths of optical pulses in the multiplexed light output through the output port to thereby output lights as the multi-wavelength light source.

2. (PREVIOUSLY PRESENTED) An apparatus for providing a multi-wavelength light source, comprising:

an optical pulse source which is modulated so as to output optical pulses with a designated repetition frequency  $f_0$ ;

a time-division multiplexing unit which causes the outputted optical pulses to be branched by a half mirror into first and second lights, so that the branched first light is reflected by a variable optical delay unit and then the reflected first light passes through the half mirror to an output port, and so that the branched second light passes through a variable optical attenuator is then reflected by a mirror and then the reflected second light again passes through the variable optical attenuator and thereafter passes through the half mirror to the output port, to thereby multiplex together the first light passing through the half mirror and the second light

passing through the half mirror into a multiplexed light which is output through the output port and which includes optical pulses with a repetition frequency of  $2 \cdot f_0$ , wherein a time difference of a path traveled by the first light and a path travelled by the second light is  $1/(2 \cdot (f_0))$ , and the variable optical attenuator adjusts intensity of the second light so that intensities of optical pulses in the branched first and second lights are equal in the multiplexed light output through the output port; and

a wavelength demultiplexing unit which demultiplexes wavelengths of optical pulses in the multiplexed light output through the output port to thereby output lights as the multi-wavelength light source.

3. (CANCELED)

4. (ORIGINAL) The apparatus for providing a multi-wavelength light source as claimed in claim 2, wherein said time-division multiplexing unit is a Michelson-interferometer-type time-division multiplexing apparatus.

5. (CANCELED)

6. (CANCELED)

7. (CANCELED)

8. (CANCELED)

9. (PREVIOUSLY PRESENTED) The apparatus for providing a multi-wavelength light source as claimed in claim 2, further comprising a spectrum-broadening unit which broadens spectrum of the optical pulses received at said time-division multiplexing unit, said spreading effected by a non-linear medium having a third-order non-linear effect.

10. (CANCELED)

11. (CANCELED)

12. (CANCELED)

13. (CURRENTLY AMENDED) An apparatus comprising:  
means for modulating an optical pulse source so as to output optical pulses with a designated repetition frequency  $f_0$ ;  
means for time-division multiplexing the optical pulses output by said optical pulse source by causing the outputted optical pulses to be branched by a half mirror into first and second lights, so that the branched first light is reflected by a variable optical delay unit and then the reflected first light passes through the half mirror to an output port, and so that the branched

second light passes through a variable optical attenuator is then reflected by a mirror and then the reflected second light again passed through the variable optical attenuator and thereafter pass through the half mirror to the output port, to thereby multiplex together the first light passing through the half mirror and the second light passing through the half mirror into a multiplexed light which is output through the output port and which includes optical pulses with a repetition frequency of  $2 \times (f_0)$ , wherein

a time difference of a path traveled by the first light and a path travelled by the second light is  $1/(2 \times (f_0))$ , and

the variable optical attenuator adjusts intensity of the second light so that intensities of optical pulses in the branched first and second lights are equal in the multiplexed light output through the output port; and

means for demultiplexing wavelengths of optical pulses in the multiplexed light output through the output port to thereby output lights as the a multi-wavelength light source.